

Exploration

Exploration on the Physical Basis of Love (Part I)

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Abstract

The physical basis of Love has remained mysterious. The nature of love has typically been left to the muse of poets and inspiration of philosophers. Psychologists usually refer to love as an emotion and biologists as a biochemical condition. Proponents of Artificial Intelligence (AI) suggest love can be described by a computer program even with current computer technology if we only knew the correct algorithm. Cognitive psychologists would profess that love reduces to configurational states in neural networks, microtubules or synapses. These aspects are not denied only that they are the wrapping and not the essence of love itself. Now that the physical cosmology of the mind-body interaction (awareness) has been discovered, it is possible to describe the fundamental basis of love. What is the soul, what is life, what is intelligence, and especially what is love and why it takes a whole new cosmology to be adequately described are questions that the noetic science of complex Self-Organized Living Systems (SOLS) begins to formally answer.

Part I of this two-part article includes: 1. Introduction - Noetic Parameters of Love; 2. Anthropic Multiverse Cosmology - Noetic Context for Love; 3. Noetic Consciousness – A Cartesian Interactive Dualism; 4. Psychons and Qualia: The Noetic Effect; and 5. Self-Organized Physical Cosmology of Qualia.

Keywords: Basis of love, nature, physical basis, spiritual union, life, intelligence, cosmology.

1. Introduction - Noetic Parameters of Love

The poet Keats cursed Isaac Newton for scientifically describing the prismatic optics of rainbows; but this author, an award winning poet, LDS (Mormon) High Priest and theoretical physicist hopes the reader will agree that the esoteric beauty and ethereal wonder of love is enhanced by a deeper understanding of the complex cosmological basis for the spiritual nature of love. Noetic cosmology claims to have solved the ancient mind-body problem by discovering an empirically testable comprehensive model for the ‘life principle’ (Descartes *res cogitans*) animating complex Self-Organized Living Systems (SOLS) [1-11]. In terms of noetic science this means that the ‘Spirit of God’, Chi, ki, or *prāna* is a physically real action of the unified field of physics [3,12]. Descartes is criticized for believing his concept *res cogitans* - ‘mind-stuff’ is nonphysical. What he actually meant by using the term ‘immaterial’ from the nomenclature of his time is that mind-stuff

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is spiritual. Contemporary scientists abandon Cartesian dualism as intractable because they believe such a mind-stuff violates the laws of thermodynamics and energy conservation. However, unified field propagation in SOLS directly overcomes this problem [2,4,5].

To briefly review the tenets of the noetic model of Cartesian interactive dualism; it is sufficient to state that an additional life principle beyond the brain/body not only gives life but supplies the 'light of the mind' (qualia) as a physically real noetic unified field cosmology [2-5]. In simplest terms in this context, when two loving people interact over an optimal length of time (varies per couple) letting their guard down, implying a certain element of trust (this opens nonlocal boundaries of the soul) such that various boundary conditions of their souls coherently align. This alignment entrains the natural flow of the spirit from locally separated individual states into an entrained or coupled pair-state producing a nonlocal coherence (soul to soul connection at a level of awareness) causing a 'noetic light-like 'explosion'. This is how a laser operates - perfectly align mirrors (entrained souls), shine a light (spirit) between them and a light explosion (love) occurs! Nonlocal connections always exist interpersonally; but the coupling loci must move into a position where the flow can be perceptually experienced. This is like the 'Way of Nonattachment' or opening the 'Lotus' in Buddhist meditation; if the spiritual eye is coupled to the stomach one does not 'see'. This higher-level coupling breaks down the so-called 1st person - 3rd person barrier.

In scientific parlance and popular literature love is discussed in terms of

- Biological - genetic, sexual, biochemical and neural
- Sociological - cultural, familial, matrimonial
- Psychological - emotion, dependence, attraction, personality type

Here we completely ignore these commonly discussed aspects and concentrate fully on the spiritual basis of love - not from a theological or philosophical context; but by introducing totally new principles of physical cosmology required to complete the task of understanding love as a physically real aspect of the noetic unified field. Now that the cosmology of mind (awareness), which includes an associated physically real 'life principle', has been discovered it has become possible to define love fundamentally within the soul of a living system. Think of this as how modulated configurations of the electromagnetic field produce images on a TV or movie theater screen or more pertinently like evanescence or superradiance.

Our task would seem so much easier if consciousness was merely a brain property as cognitive scientists believe. If this were so then mere programming structures in a neural network configuration or biochemistry would suffice to explain a particular thought, emotion or experience such as love. But this is not the case; cognitive and AI scientists fail to prove their case for mechanism, a universe populated by programmed minds devoid of spirituality. Is it any wonder they classify mind as a 'hard problem' too difficult to research [13]. In order to describe

awareness, a whole new cosmology is required; not a Darwinian naturalistic or atheistic Big Bang cosmology, but an anthropic multiverse cosmology that includes the spirit of God. Evolution still exists but it is not random. Evolution is 'guided' by this anthropic principle or spirit of God synonymous with the 3rd regime unified field of physics. Biological Mechanism states: The laws of chemistry and physics are sufficient to describe all life; no additional life principle is required. Noetic theory by introducing an anthropic life principle is able to definitively describe awareness and related properties such as love, intelligence and transcendence.

We have claimed that it is easy, meaning we can do it; but it is still not so simple a task. The cosmology of awareness cannot be described in the usual 3D or 4D spacetime dynamics of quantum theory and Big Bang cosmology. To describe awareness requires a minimum twelve dimensional (12D) space with a duality between our limited 3D temporal existence and the higher dimensional (HD) holographic reality of eternity of which we are a subspace. Our purpose is to delineate love in this new context. Although we are now able to define the anthropic cosmology of living systems, thought, emotions and feelings; describing love at this early stage (without telecerebroscope or noetic holography technology) is in a sense like putting a cart before the horse because love is a more special (higher) configuration requiring something extraordinary in order to fully describe it. To be perfectly clear we are not claiming to know the essence of the spirit of God which is said to be love; only that noetic science has found empirical methods to access and observe the pathways and geometry of that structure in the living matter of SOLS [2-5,7,14].

Defining love requires an additional feedback loop causing lasing between interpersonal unified field boundaries. Let's clarify. The stream of thought or awareness (technically called qualia) entails an alignment of spacetime mirrors (boundary conditions gating spirit into living systems) producing the flow of mental content within SOLS; but it is a lesser form of evanescent coherence. The configuration of love requires a duality of 'superradiance' interpersonally breaking the 1st person - 3rd person barrier. These added coherence parameters are required for transpersonal effects - especially love. Whereas love is a form of 'constructive interference (wave summation); it should be noted that there is an obverse telergic 'noetic effect' affecting the health of others - a form of destructive interference. This will lead to a new field of noetic medicine relating especially to the hundreds of heretofore incurable autoimmune disorders as [14].

2. Anthropic Multiverse Cosmology - Noetic Context for Love

Noetic Science is based on an alternative to Big Bang cosmology called the Holographic Anthropic Multiverse [1,3]. This alternative cosmology is required because the Big Bang has no life principle able to describe consciousness beyond chemistry or an erroneously theorized computer program in the brain (Mind = Brain). Scientifically Hubble discovered a cosmological redshift, not an expansion of the universe as mistakenly concluded by Big Bang cosmologists. A

cosmological redshift is however observed. But in multiverse cosmology if one assumes that the photon of light has a tiny mass, 10^{-65} g, then redshift occurs instead by a “tired-light” mechanism [1]. Imagine skipping a flat stone across water. Each time the stone hits the water and skips, it loses a little energy and the skips and velocity of the stone get shorter and smaller until the stone stops and sinks into the water. In terms of astrophysics this means light still gets redder and redder with distance but eventually it loses all its energy and disappears from view in our telescopes. This is the limit of observation in cosmology. In physics minute photon mass is created by the periodic internal rotation of the photon’s energy that creates a gravitational field (periodic mass) causing the photon to couple to spacetime once per wave cycle and lose energy just like the skipping stone [1]. If the photon had no mass, it seems possible the speed of light would be infinite instead of merely 300 k/s?

In Big Bang cosmology the observational limit in cosmology (as far as telescopes can see) is to the postulated origin of time or initial moment or singularity when the grand explosion called the Big Bang occurred. In multiverse cosmology if one traveled to that limit ~ 14.7 billion light years away, one could see out again for another 14.7 billion light years. This as we mentioned is a result of the so-called tired-light phenomena caused by a tiny periodic photon mass [1]. See [1,3] for details on other alternative cosmological parameters required for cosmology containing a life principle.

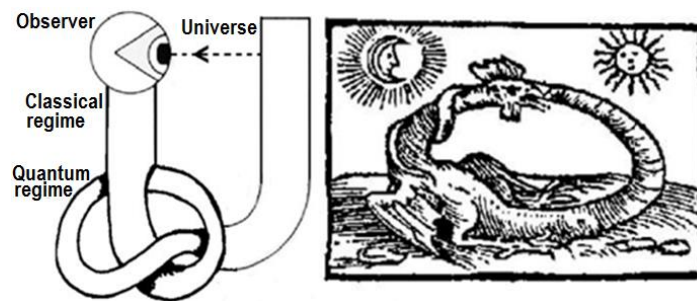


Figure 1. a) Modified model of L.H. Kauffman’s adaptation of J. Wheeler’s Uroboros cosmology based on an ancient archetypal universe related to topological surfaces like the Mobius strip or Klein bottle, especially the topology of holographic universe models. In multiverse cosmology the observer is embedded in and made out of the anthropic substance of creation where the ‘knot’ (quantum uncertainty principle) limits observation to a limited temporal 3D virtual reality. b) The Uroboros, among the ancient Gnostics a symbol of the *aeon*, or eternity of life. The image is from Horapollo, *Selecta Hieroglyphica*, 1597.

Another major property of multiverse cosmology is the anthropic principle equated with the unified field of physics [2-5]. In the philosophy of science the unified field is the same as the spirit of God that supplies the gravitational force, guides the evolution of complex living systems (SOLS) mentally and physiologically [2,12]. As illustrated in Fig. 2b reality is perceived as a hologram; the anthropic principle or spirit of God acts as the laser creating the holographic 3D

image of the reality of our world as the cube in Fig. 2a.

This can also be thought of as an observer sitting in a movie theater. The light at the projector bulb is the unified field or laser, the discrete frames of film are segments of spacetime and the smooth image on the movie screen is our observed 3D virtual reality. While the film in the projector moves at a few centimeters per second, in reality the surface of matter is made of electrons moving at a velocity near the speed of light. Imagine being embedded in the Uroboros cosmology of Fig. 1. We only see reality based on the discrete segments of 4D spacetime, not the complete 12D eternal reality of the multiverse. This subtraction by being embedded in the Uroboros, and the propagation of the spacetime segments gives us the perceived arrow of time [3]. There are many other amazing properties of multiverse cosmology [1-9].

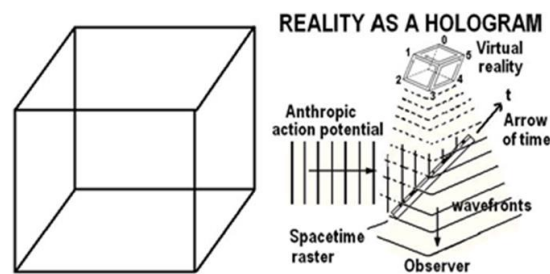


Figure 2. a) Observed reality depicted as a virtual 3D Euclidean spacetime cube. b) Actual reality is more like a hyperdimensional hologram in a 12D background of infinite quantum potential (Schrödinger’s dead and alive cat). The ‘laser’ is the teleological unified field anthropic action principle (Fig. 3) ‘piloting’ the continuous evolution of observed reality.

3. Noetic Consciousness – A Cartesian Interactive Dualism

Current thinking in the field of consciousness studies or cognitive science asks, “*What processes in the brain give rise to awareness?*” [13]. We know this cognitive model is incorrect because it is an atheistic model with no allowance for an anthropic action principle or spirit of God giving life to the soul or animating the mind. We are not programmed robots. Evolution still exists but it is not random / Darwinian; it is guided by the spirit of God - like a super quantum potential in de Broglie-Bohm causal interpretation of quantum theory [15,23]. Cartesian interactive dualism says mind and body are distinct entities, allowing life of the soul after death and the spirit of God to be the light of SOLS and the mind.

NOETIC INTERACTION OF ECCLES PSYCHON

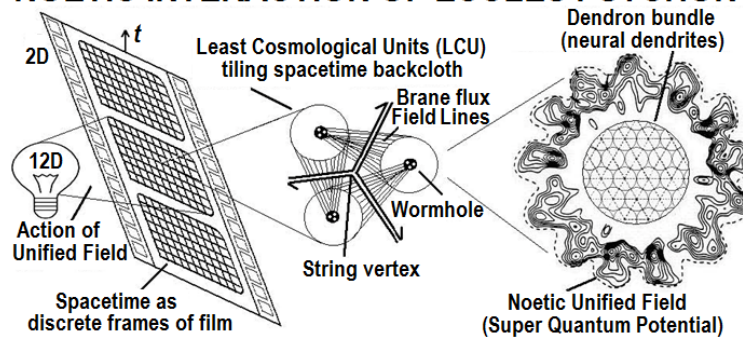


Figure 3. Conceptualization of Interactionist Cosmology embedding a modulated locus of thought (qualia) into the inherent life principle structure of Fig. 2. a) Showing injection of the noetic field (bulb) or *élan vital* into spacetime points (film), b) Planck scale array of least-units mediating the noetic unified field. Spacetime is virtual in multiverse cosmology and the least cosmological units (LCUs) tiling its backcloth are driven by a teleological anthropic action principle. Each ‘point’ is a continuous-discrete wave-particle duality. c) An Eccles Psychon field coupled to a brain dendron where positive functioning leads to health and transcendence or negative actions deplete the corona of the noetic field in the soul and create deleterious autoimmune interactions that may interrupt normal homeostasis and health.

The important understanding to take from Figs. 2 and 3 is that in an anthropic cosmology the unified field or spirit of God enters each spacetime point and every atom and molecule after passing through the cosmological least-unit gating mechanism separating the domains of temporal and eternal reality [1,3]. This is how the life principle enters living systems to give life and also be the light of the mind or awareness. If the ‘gate’ was always open, we would not be able to live in time where a form of subtractive interferometry removes the additional dimensionality from our sensory apparatus. In the multiverse cosmology model of living systems, the spirit (life principle) and the body comprise the soul [2,12]; so that there are no disembodied souls. When a person dies his eternal spirit (mind or intelligence) is eventually reunited with a body (resurrection). This is the Cartesian dualist-interactionist model of mind-body. We call the boundary of the soul the psychosphere because there is more to SOLS than the brain and body chemistry; the soul also includes a surrounding spacetime region like the solar corona and additional eternal boundary conditions comprising the limits of individual intelligence.

4. Psychons and Qualia: The Noetic Effect

The mind-body interaction process between the 12D eternal realm of God and the temporal 3D/4D realm of mankind is defined as the Noetic Effect [2,9] because it entails a force of coherence with inertial tension related to the quantum uncertainty principle as a barrier between the two domains. We will now begin to illustrate how this Noetic Effect mediates the production of qualia. Qualia,

the plural of quale, is short for the ‘qualitative feel’ of subjective awareness of a thought or feeling like the experience of the color redness for example [2,13]. Sir John Eccles, Nobel Prize for discovery of the synapse, postulated that a concept he called the ‘psychon’ coupled the spirit or unified field to brain dendrons. A dendron is a bundle of ~ 100 of the dendrites of nerve cells [4]. This is the basis of the dualist-interactionist model of the mind-body first proposed by Descartes. Eccles left the concept of the psychon as an empty philosophical construct because at the time he did not know how to develop the model further. Although Eccles was severely criticized for not defining the psychon, we cannot fault him because during his day no way to define this interaction properly had yet been invented [2,4]. As the reader may have surmised, before we define love, the consciousness that houses it must be described.

With the advent of Noetic Theory, we are now in position to define the physical basis for the psychon-dendron interaction, a necessity before defining the physical cosmology of love. We first suggest that psychon energy should be quantified in a similar manner to that of the quantity called the Einstein, the physical unit defined as a mole or Avogadro’s number of photons (10^{23}) used to measure photosynthesis [3]. But instead of photons the tenets of NFT postulates one psychon to be tantamount to a mole of “noeons”, the exchange unit of the unified field (recall that the photon is the exchange unit of the electromagnetic field). Furthermore, this noeon exchange mechanism is not confined only to the neural synaptic sites of dendron bundles as Eccles surmised. In addition, it applies to microtubules, sensory receptors, DNA oligomers and any other pertinent biochemical molecules. This occurs not just in the brain, but anywhere throughout the whole body that plays a role in the bioenergetics of the soul or mind-body psychosphere, which as we stated includes the boundary conditions of the whole physical and spiritual body in both the usual 4D temporal spacetime and associated 12D nonlocal space up to the ‘footstool of God’.

We don’t know too much yet about the noeon that is the ‘light of the spirit’ or unified field. Imagine balloon animals that are made by twisting off segments of the main balloon to make a head or limbs. Double twists would be like a nose, eyes or fingers. The photon quanta of the electromagnetic field is like this. The photon is a dipole, like a little nose for example. It would untwist to a quadrupole, the graviton which is like the head or body of the animal. When the head is untwisted the energy returns to the whole balloon which is like the ubiquitous ocean of light of the unified field in the eternal 12D domain. These twists (providing some inertia in the continuous gating cycle) are part of the Noetic Effect we referred to earlier. Now we have a basic model where these noeon twists of the unified field become all the atoms, forces and fields of our reality.

5. Self-Organized Physical Cosmology of Qualia

In the cognitive theory qualia is only a philosophical construct defined simply as the sensation of thought or awareness. In Noetic Theory in order to make qualia physically real we must define three types of qualia. In a paper called ‘What’s it like to be a bat?’ T. Nagel states that current reductionist attempts to define qualia fail by filtering out any basis for consciousness; thus becoming meaningless since they are logically compatible with its absence [16]. He assumes that if an organism has conscious experience, “*there is something it is like to be that organism*”. This is the subjective character of experience for any conscious entity whether bat or Martian. Every experience has a specific subjective nature or configuration of qualia.

The flow of quale provides the so-called ‘stream of consciousness’. Not all qualia are coupled to emotion. We can configure qualia with additional emotive content as ‘states of mind’. Love is a third degree with the duality of entangled or entrained parameters. Love adds ‘shared’ emotive content beyond the boundaries of the self that we will define below as a form of lasing or superradiant evanescence between the internal (nonlocal) ‘mirrors’ of SOLS.

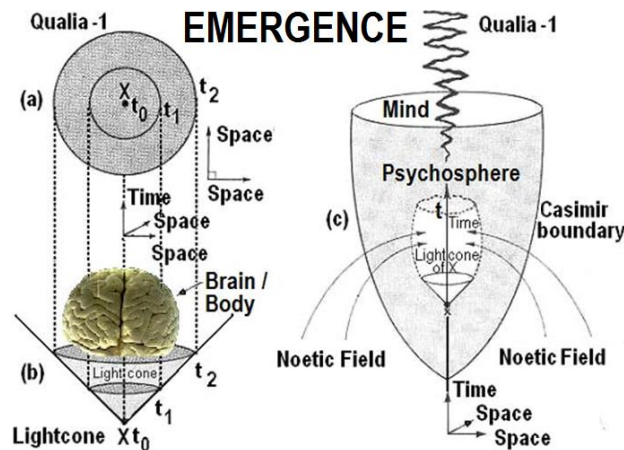


Figure 4. The emergence of Qualia into living systems. a) From the 4D spacetime lightcone point $x t_0 \dots x t_n$ noeon light enters every atom and thus the brain/body cyclically in time, $t_0, t_1, t_2 \dots$ b) Broader 12D context where qualia emerges into the mind or seat of awareness by a form of ‘evanescence’. Note: These same Cassimir (Casimir) boundaries bringing life and thought into the individual soul, when aligned (entrained between people in love) between two SOLS create the laser-like ‘light explosion’ or joyous expansion of the soul we experience as love.

To Nagel, “*There are facts which could not ever be represented or comprehended by human beings, simply because our structure does not permit us to operate with concepts of the requisite type*”; because “*to even form a conception of what it is like to be a bat one must take up the bat’s point of view*”. If one removed the viewpoint of the subjective observer; what would be left? Nagel suggests the remaining properties might be those detectable by other beings, the physical

processes themselves or states intrinsic to the experience of awareness. This changes the perspective of qualia to the form “*there is something it is like to undergo certain physical processes*”. “*If our idea of the physical ever expands to include mental phenomena, it will have to assign them an objective character*”. Nagel recognizes that: Very little work has been done on the basic question (from which mention of the brain can be entirely omitted) whether any sense can be made of experiences having an objective character at all. Does it make sense ... to ask what our experiences are really like, as opposed to how they appear to me?...This question also lies at the heart of the problem of other minds ... If one understood how subjective experience could have an objective nature, one would understand the existence of subjects other than oneself [16].

These are questions an integrative Noetic Science can now answer. Standard definitions of qualia are an inadequate philosophical construct describing only subjective awareness. In the physical sense of Noetic Field Theory (NFT) components describing qualia from the objective sense are introduced - i.e. distinguishing the phenomenology of qualia from the noumenon (separated from the apparition or superficial aspects of the phenomenon) or physical existence of the thing in itself beyond experience.

A comprehensive definition of qualia includes three forms considered physically real by NFT because the noetic fields of multiverse cosmology on which the noetic model is based are all physically real:

Type I. The Subjective - The what it feels like basis of awareness. Phenomenological states of the qualia experience. (The current philosophical definition of qualia we term Q-I)

Type IIA. The Objective - Physical basis of qualia independent of the subjective feel that could be stored or transferred to another entity breaking the 1st person 3rd person barrier. These are the noumenal elements of qualia upon which the phenomenology of experience is based.

Type IIB. As in Fig. 2b in terms of unified field noeton flux passing through the microscopic LCU raster of spacetime like a laser light producing a macroscopic holographic image; we define the discrete singular LCU points as ‘quanemes’ or qualia-nemes derived from the term phonemes as the particulate components summing into a specific sound in phonology.

Type III. The Universal - By being alive living systems, SOLS represent a Qualia substrate of the anthropic multiverse, acting as a ‘blank slate’ as carrier from within which Q-II are modulated into the Q-I of experience by a form of superradiance or hyper-holographic evanescence [2]. See Figs. 5 and 6.

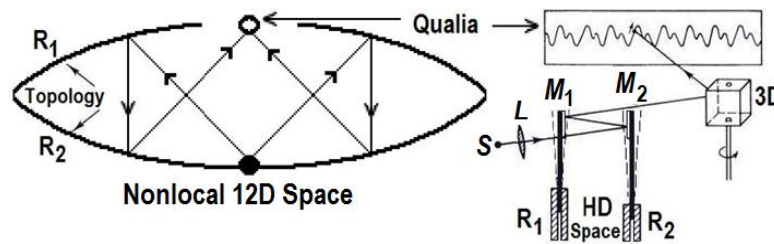


Figure 5. a) If two parabolic mirrors (Casimir mirrors of the soul) are placed as shown (like the configuration of automobile headlight mirrors), an object put in the bottom (black dot) produces a virtual image of the object at the top (white sphere). b) If the mirrors (topological spacetime boundary conditions) are made to resonate in a certain manner coupled to sensory input, memory archetypes or thought, an encoded mental qualia emerges into the mind as in combining Figs. 2-4 with 5. S is the neon source. $R_1 - M_1 : R_2 - M_2$ Casimir mirrors oscillate and reflect noons into qualia.

This triune basis of qualia is only comprehensible in terms of the noetic definition of SOLS, Complex Self-Organized Living Systems in the higher dimensional holographic anthropic multiverse cosmology incorporating 3rd regime Unified Field Mechanics [2,4]:

- There is an Elemental Intelligence co-eternal with God. We know little about this parameter at present other than it constitutes the boundary conditions of individuality, without which individuality ‘could not abide’ [12].
- The 3D physical body living in spacetime and made of matter.
- The soul or ‘spirit and the body’ [12] given life by the unified field noon flux or spirit of God. The spirit of God somehow couples the domain of nonlocal elemental intelligence to the body and animates it by its action as the life principle. The difference between the spirit of God and the qualia of awareness may be like the twists making a balloon animal as described above.

Thus in summary these six elements comprise the basis of SOLS and the qualia system embedded and flowing within.

A standard image requires a screen or other reflective surface to be resolved; but if the foci of two parabolic mirrors (Casimir-like plates in our model) are made to coincide, the two images superpose into a real 3D image that does not need a screen. A science toy called the ‘magic mirage’ is used to demonstrate this effect of parabolic mirrors. Objects placed in the bottom appear like solid objects at the top of the device. Figure 5.

The lighthouse beacon action of *élan vital* energetics arises from the harmonic oscillation gating mechanism of least unit boundary conditions that tiles or tessellates the spacetime backcloth and pervades all SOLS. The inherent beat frequency of this continuous action produces the Q-III carrier wave that is an empty slate modulating cognitive data of Q-II physical parameters into Q-I

awareness states as a superposition of the two (Q-III and Q-II). Figure 6. This modulation of qualia occurs in the 12D cavities of the cognitive domain of the psychosphere. The 12D cavities are a close-packed tiling of least unit noetic hyperspheres; the Casimir surfaces of which are able to reflect quaneme subelements. While the best reflectors of EM waves are polished metal mirrors, charged boundary conditions also reflect EM waves in the same way radio signals bounce off the ionized gases of the Kennelly-Heaviside layers in the Earth's ionosphere. This reflective 'sheath' enclosing the cognitive domain is charged by the Noeon radiation (exchange particle of the noetic field) of the *élan vital*, the phases of which are 'regulated' in the complex HD space of the least unit multiverse cosmology [1-3].

How does noetic theory describe more complex qualia than the simple qualia of a light pencil? (The qualia-II of a light pencil is assumed to be the pencil (short ray) of light itself. Light quanta are microscopic in contrast to the macroscopic sphere of awareness. It is reasonable to assume that scale invariant properties of the multiverse least-unit of awareness would apply. Like phonemes as fundamental sound elements for audible language qualia-nemes or quanemes are proposed for awareness based on the physical modulation of Q-II states by the geometric structural-phenomenology of the Q-III carrier base of living systems.

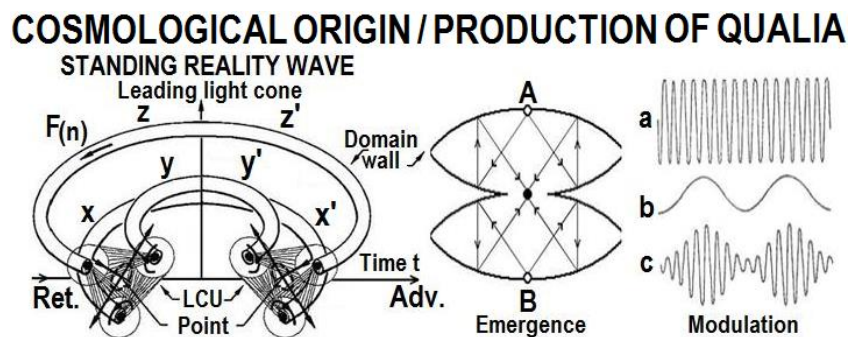


Figure 6. Metaphor for the emergence of qualia from the continuous action of the noetic least unit, LCU. a) A microcosm of multiverse cosmology where past oriented compactification periodically produces a classical spacetime point, x, y, z . The standing-wave domain walls represent the lightcone singularities of Q-III propagation, the surfaces of which act structurally as Casimir-like plates, and phenomenologically as a carrier wave base for Q-I qualia evanescence by Q-II modulation. b) represents two pairs of parabolic mirrors (the Q-III Casimir domain walls) whose foci overlap; this is the high frequency wave in c) denoted as (a) (top). The longer wave (b) (middle) represents Q-II qualia as modulated by the Q-III wave into the usual Q-I qualia at the bottom, (c). Thus a, b, and c in c) represents the three forms of qualia and how they work together to form mental Q-I by superradiance of the noetic field.

(Continued on Part II)